

ABSTRACT OF THE DISCLOSURE

A mixture of an electrolyte, a first oligomer and an initiating agent is emulsion polymerized to form a precursor solution with a micro void structure for the gel-type electrolyte. A current available jelly-roll is put 5 into an aluminum foil packet, and the precursor solution is then injected into the packet, which is then sealed and baked so that a highly conductive gel-type electrolyte is disposed inside and outside the jelly-roll. The lithium battery with the gel-type electrolyte is very stiff, reliable, and free from expansion and electrolyte leakage.